

Sequence Listing

<110> APROGEN INC.

<120> HUMANIZED ANTIBODY AND PROCESS FOR PREPARING SAME

<130> PCA30215/APG

<150> KR10-2002-0015708

<151> 2002-03-22

<160> 38

<170> KopatentIn 1.71

<210> 1

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> HEAVY CHAIN of HZVII

<400> 1

caggtccagc tgggtgcagtc tggagctgaa gtgaagaagc ctggggcctc agtgaagggt	60
tcctgcaaag cttctggcta caccttcacc agtgcttgga tgaactgggt gcgacaggcc	120
cctggacagg gtcttgagt gatgggacgg atttatccta gtggtggaag cactagctac	180
gcacagaagt tccagggcag agtcacaatg actgcagaca aatccacgag cacagtctac	240
atggagctca gcagcctgag atctgaggac acggcgggtg attactgtgc aagagagtac	300
cgggttgccc gttggggcca aggaactctg gtcactgtct cttca	345

<210> 2

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> HEAVY CHAIN of HZVII

<400> 2

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Ala Pro Gly Ala	
1 5 10 15	
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Ala	
20 25 30	
Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met	
35 40 45	
Gly Arg Ile Tyr Pro Ser Gly Gly Ser Thr Ser Tyr Ala Gln Lys Phe	

50 55 60

Gln Gly Arg Val Thr Met Thr Ala Asp Lys Ser Thr Ser Thr Val Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Tyr Arg Val Ala Arg Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ala
115

<210> 3
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> LIGHT CHAIN of HZVII

<400> 3
gatatcgtga tgacccaaac tccactttct ttgtcgggta cccctggaca accagcctct 60
atctcttgca agtcaagtca gaggcctctta tatagtaatg gaaaaaccta tttgaattgg 120
ttattacaga agccaggcca gcctccacag cgcctaattct atctgggtgtc taatcggggac 180
tctggagtcc ctgacaggtt cagtggcagt ggatcaggaa cagattttac actgaaaatc 240
agcagagtgg aggctgagga tgttggagtt tattactgcg tgcaaggtag acatttttct 300
cagacgttcg gtggaggcac caaggtggaa atcaaa 336

<210> 4
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> LIGHT CHAIN of HZVII

<400> 4
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30
Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Lys Pro Gly Gln Pro
35 40 45

Pro Gln Arg Leu Ile Tyr Leu Val Ser Asn Arg Asp Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Val Gln Gly
85 90 95

Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 5
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Ryu94

<400> 5
gagaattcac attcacgatg tacttg

26

<210> 6
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> HUR43-1

<400> 6
ctgctgcagc tggacctgac tctggacacc att

33

<210> 7
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> HUR44-1

<400> 7
caggtccagc tgcagcagtc tggacctgaa ctg

33

<210> 8
<211> 33
<212> DNA

<213> Artificial Sequence

<220>

<223> HUR45-1

<400> 8

tgggcccttg gtggaggctg cagagacagt gac

33

<210> 9

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> HUR46-1

<400> 9

gcctccacca agggcccatc ggtcttcccc ctg

33

<210> 10

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> HUR31

<400> 10

cagcgccgc tcatttaccg ggggacag

28

<210> 11

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Ryu86

<400> 11

caaagcttgg aagcaagatg gattca

26

<210> 12

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> HUR48

<400> 12
caagatatcc ccacaggtac cagatac 27

<210> 13
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> HUR49

<400> 13
tgtggggata tcttgatgac ccaaact 27

<210> 14
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> HUR50

<400> 14
cacagatctt ttgatttcca gcttggt 27

<210> 15
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> HUR51

<400> 15
atcaaaaagat ctgtggctgc accatct 27

<210> 16
<211> 58
<212> DNA
<213> Artificial Sequence

<220>
<223> CK1D

<400> 16
gcgccgtcta gaattaacac tctcccctgt tgaagctctt tgtgacgggc gaactcag 58

<210> 17
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> YM001N

<400> 17
ccggaattca cattcacgat gtacttg

27

<210> 18
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> YM003

<400> 18
tgccccaga ggtgct

16

<210> 19
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> ym257

<400> 19
acgcattcag tgcttcttgg atgaactggg tga

33

<210> 20
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> YM258

<400> 20
atccaagaag cactgaatgc gtagccagaa g

31

<210> 21
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
 <223> YM004

<400> 21
 ccaattcaaa gcggtttttc cattactata taagaggc 38

<210> 22
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> YM009

<400> 22
 gcagccaccg tacgtttgat ttccaccttg gt 32

<210> 23
 <211> 39
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Ryu 166

<400> 23
 ggatttgtct gcagtcattg tggctctgcc ctggaactt 39

<210> 24
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Hur 37

<400> 24
 gacaaatcca cgagcacagt ctacatg 27

<210> 25
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Ryu 118

<400> 25

ctgtggaggc tggcctggct tctgtaataa cca

33

<210> 26
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Ryu 119

<400> 26
ggccagcctc cacagctcct aatctatctg

30

<210> 27
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> KR127VH

<400> 27
caggtccagc tgcagcagtc tggacctgaa ctggtgaagc ctggggcctc agtgaagatt 60
tcctgcaaag cttctggcta cgcattcagt agttcttggga tgaactgggt gaagcagagg 120
cctggacagg gtcttgagtg gattggacgg atttatcctg gagatggaga tactaactac 180
aatgggaagt tcaagggcaa ggccacactg actgcagaca aatcctccag cacagcctac 240
atgcagctca gcagcctgac ctctgtggac tctgcggtct atttctgtgc aagagagtac 300
gacgaggctt actggggcca agggactctg gtcactgtct ctgca 345

<210> 28
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> KR127VH

<400> 28
Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser
20 25 30
Trp Met Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe
 50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Val Asp Ser Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Glu Tyr Asp Glu Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ala
 115

<210> 29
 <211> 336
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> KR127VK

<400> 29
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 atctcttgca agtcaagtca gagcctctta tataagtaatg gaaaaaccta tttgaattgg 120
 ttattacaga ggccaggcca gtctccaaag cgcctaattct atctggtgtc taaactggac 180
 tctggagtcc ctgacagggt cactggcagt ggatcaggaa cagattttac actgaaaatc 240
 atcagagtgg aggctgagga tttgggagtt tattactgcg tgcaaggtag acattttcct 300
 cagacgttcg gtggaggcac caagctggaa atcaaa 336

<210> 30
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> KR127VK

<400> 30
 Asp Ile Leu Met Thr Gln Thr Pro Leu Ile Leu Ser Val Thr Ile Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
 20 25 30

Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser

35

40

45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
 50 55 60

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ile Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Val Gln Gly
 85 90 95

Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 31
 <211> 294
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> DP7

<400> 31
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 tcctgcaagg catctggata caccttcacc agctactata tgcactgggt gcgacaggcc 120
 cctggacaag ggcttgagtg gatgggaata atcaacccta gtggtggtag cacaagctac 180
 gcacagaagt tccagggcag agtcaccatg accagggaca cgtccacgag cacagtctac 240
 atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc gaga 294

<210> 32
 <211> 98
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> DP7

<400> 32
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
 20 25 30
 Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Ile Ile Asn Pro Ser Gly Gly Ser Thr Ser Tyr Ala Gln Lys Phe
50 55 60
Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr
65 70 75 80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg

<210> 33
<211> 302
<212> DNA
<213> Artificial Sequence

<220>
<223> DPK12

<400> 33
gatattgtga tgaccagac tccactctct ctgtccgtca cccctggaca gccggcctcc 60
atctcctgca agtctagtca gagcctcctg catagtgatg gaaagaccta tttgtattgg 120
tacctgcaga agccaggcca gcctccacag ctctgatct atgaagtttc caaccggttc 180
tctggagtgc cagatagggt cagtggcagc gggtcaggga cagatttcac actgaaaatc 240
agccgggtgg aggctgagga tgttgggggt tattactgca tgcaaagtat acagcttcct 300
cc 302

<210> 34
<211> 100
<212> PRT
<213> Artificial Sequence

<220>
<223> DPK12

<400> 34
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu His Ser
20 25 30
Asp Gly Lys Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Pro
35 40 45
Pro Gln Leu Leu Ile Tyr Glu Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ser
85 90 95

Ile Gln Leu Pro
100

<210> 35
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> HEAVY CHAIN of HZI

<400> 35
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tcctgcaaag cttctggcta cgcattcagt agttcttga tgaactgggt gcgacaggcc 120
cctggacagg gtcttgagtg gattggacgg atttatcctg gagatggaga tactaactac 180
gcacagaagt tccagggcaa ggccacactg actgcagaca aatccacgag cacagcctac 240
atggagctca gcagcctgag atctgaggac acggcgggtct atttctgtgc aagagagtac 300
gacgaggctt actggggcca aggaactctg gtcactgtct cttca 345

<210> 36
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> HEAVY CHAIN of HZI

<400> 36
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser
20 25 30
Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45
Gly Arg Ile Tyr Pro Gly Asp Gly Ser Thr Ser Tyr Ala Gln Lys Phe
50 55 60
Gln Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr

65

70

75

80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Glu Tyr Asp Glu Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 37
 <211> 336
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> LIGHT CHAIN of HZI

<400> 37
 gatatcttga tgacccaaac tccactttct ttgtcgggta cccctggaca accagcctct 60
 atctcttgca agtcaagtca gagcctctta tatagtaatg gaaaaaccta tttgaattgg 120
 ttattacaga agccaggcca gtctccaaag cgcctaattct atctgggtgc taaactggac 180
 tctggagtcc ctgacagggt cagtggcagt ggatcaggaa cagattttac actgaaaatc 240
 agcagagtgg aggctgagga tgttggagtt tattactgcy tgcaaggtag acattttcct 300
 cagacgttcg gtggaggcac caaggtggaa atcaaa 336

<210> 38
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> LIGHT CHAIN of HZI

<400> 38
 Asp Ile Leu Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15
 Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
 20 25 30
 Asn Gly Lys Thr Tyr Leu Tyr Trp Leu Leu Gln Lys Pro Gly Gln Ser
 35 40 45
 Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Val Gln Gly
85 90 95

Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110